

Physics Division Seminar

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**Heavy Quarkonium Production: Probing
the Gluonic Structure of the Nucleon and
the Dynamic Origin of its Mass**

Host: José Repond

Monday, November 26, 2018 – 203, R150, 3:30 PM

Production of heavy quarkonium provides for a unique probe to the gluonic structure of the nucleon. A new generation of experiments at Jefferson Lab in the 12 GeV era will use near-threshold J/ψ production to study topics related to the dynamic origin of nucleon mass, the nature of the color Van der Waals force, and the existence of the LHCb charmed pentaquark. These topics can also be studied at a future electron-ion collider (EIC) through near-threshold Y production. Furthermore, an EIC will enable access to the full three-dimensional tomographic image of the gluonic structure of the nucleon through J/ψ and Y production at high energies. I will discuss in particular my upcoming experiment in Hall C, the future SoLID experiment and the possibilities at an EIC.